

## CLAIMS

1. A processing method of processing a formed product by a punch press, comprising:
  - 5 (a) a step of leaving a micro joint connecting a workpiece to a raw material for the formed product at a time of forming a slit in the workpiece along an outer shape of the raw material;
  - (b) a step of forming the formed product by positioning a bending process portion of the raw material on a lower metal mold and bending the  
10 bending process portion downward on the basis of a cooperation of an upper metal mold and the lower metal mold; and
  - (c) a step of dropping the formed product by separating the connection between the formed product and the workpiece by the micro joint.
- 15 2. An upper metal mold, comprising:
  - a punch guide supported to an upper mold holder in a punch press so as to be movable upward and downward;
  - a punch body provided within the punch guide so as to be movable  
upward and downward; and
  - 20 a punch body provided in a lower end portion of the punch body, wherein a bending process portion is provided in a lower end portion of the punch chip so as to protrude to a side portion; and
  - wherein the punch chip is provided so as to be movable in a protruding direction of the bending process portion with respect to the punch  
25 body.
3. The upper metal mold according to claim 2, further comprising:

a pressure moving mechanism for pressure moving the punch chip in the protruding direction of the bending process portion at a time when the punch body moves downward.

- 5     4.        The upper metal mold according to claim 3, wherein the pressure moving mechanism comprises:

an inclined surface formed in an opposite side to the protruding direction of the bending process portion in the punch chip; and

- 10        a punch chip pressing member provided in a lower portion of the punch guide, the pressing member being slidable with the inclined surface.

5.        A lower metal mold, comprising:

a die main body detachable with respect to a lower mold holder of a punch press, the die main body having a die hole formed therein; and

- 15        a plurality of bending process edges formed at a plurality of positions in an inner peripheral edge of the die hole, the bending process edges bending a workpiece,

- 20        wherein each of a plurality of dimensions from a center of the die hole to the plurality of bending process edges is differentiated so as to be capable of corresponding to the workpieces having different thicknesses.

6.        A lower metal mold, comprising:

a die main body detachable with respect to a lower mold holder of a punch press, the die main body having a die hole formed therein; and

- 25        a die chip structuring a part of an inner peripheral edge of the die hole and provided with a bending process edge for executing a bending process of a workpiece,

wherein the die chip is provided so as to be detachable with respect to the die main body.